

REMARKS

Reconsideration of this application is respectfully requested.

Upon entry of the foregoing amendments, claims 1-32 are pending in this application with claims 1 and 16 being the independent claims. Claims 1 and 16 have been editorially amended to more clearly state the invention as claimed.

Based on the above Amendment and the following Remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Claim 1

The Office Action on pages 2-3 in section 3 rejects claim 1 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,404,522 to Handelman (the '522 patent).

In an exemplary embodiment of the invention, referring to figures 2 and 3, for example, amended claim 1 recites wavelength division multiplex (WDM) transmission system having a WDM transmission network 1, and optical transmission device 3, an optical receiving device 4, and a wavelength component-specific route setting device 6. The WDM transmission network 1 has a plurality of routes RT1, RT2 for transmitting optical signals. The optical transmission device 3 distributes transmission signals to be transmitted among a plurality of wavelength components, converts each of said transmission signals into WDM signals, and sends each of said WDM signals to a specific route RT1 or RT2, for example, of the plurality of routes RT1, RT2 of said WDM transmission network 1. The optical receiving device 4 restores the WDM signals from the WDM transmission network 1 into the transmission signals. The wavelength component-specific route setting device 6 sets routes for each of the wavelength components for transmission on said WDM transmission network 1.

The Office Action asserts that the '522 patent discloses, in Figure 2, a WDM transmission system comprising an optical transmission device 205, a WDM transmission network, and an optical receiving device 210. The Office Action further asserts that the '522 patent has a wavelength component-specific route setting device 240 to set routes for transmission on said WDM transmission network for each of said wavelength components. Applicants respectfully traverse this rejection for at least the following three reasons.

First, the '522 patent does not teach or suggest the recited optical transmission device. As amended, claim 1 recites an optical transmission device *to distribute transmission signals to be transmitted among a plurality of wavelength components*. In an exemplary embodiment of the invention, a single signal is distributed among a plurality of transmission signals. Referring to Figure 4, for example, an optical transmission device 3 may include a signal distributor 12 that has functions for distributing transmission signals from transmission terminals to optical channel cards 13-1 to 13-n. See, e.g., Specification, page 12, lines 21-23. In such an embodiment, the signal distributor may conform to, for example, Inverse MUX for Packets (IMP) over SONET/SDH. See, e.g., Specification, page 13, lines 8-9.

The '522 patent does not teach or suggest an optical transmission device *to distribute transmission signals to be transmitted among a plurality of wavelength components*. Instead, the '522 patent teaches a system that transmits a plurality of 1-n electrical domain input signals as n multiplexed wavelength signals. In other words, the '522 patent uses a wavelength slot route setting component to divide input signals over arbitrary wavelength slots. Such a system does not *distribute transmission signals to be transmitted among a plurality of wavelength components*. Accordingly, claim 1 is allowable over the '522 patent for at least a first reason.

Second, the '522 patent does not teach or suggest the recited WDM network. As amended, claim 1 recites a WDM transmission network *having a plurality of routes for transmitting optical signals*. Referring to Figure 3, for example, WDM network 1 may include a plurality of routes RT1, RT2 for transmitting optical signals.

The '522 patent does not teach or suggest a WDM transmission network *having a plurality of routes for transmitting optical signals*. Although the Office Action does not specifically align the recited WDM network to any corresponding elements in the '522 patents, Applicants interpret the Office Action as aligning the WDM network with fiber optic cable 215. See, the '522 patent, col. 10, lines 33-37. Such a fiber optic cable does **not** have a plurality of routes for transmitting optical signals. Instead, the fiber optic cable provides a **single** optical communications link, **without a plurality of routes**, between the transmitting device and the receiving device. Accordingly, claim 1 is allowable over the '522 patent for at least a second reason.

Third, the '522 patent does not teach or suggest the recited wavelength component-

specific route setting device. Claim 1 recites a wavelength component-specific route setting device *to set routes for each of the wavelength components for transmission on said WDM transmission network*. In an exemplary embodiment of the invention, referring to figures 3 and 7, for example, network management device 6 may operate as a wavelength component-specific route setting device. See, e.g., Specification, page 21 lines 2-8.

The '522 patent does not teach a wavelength component-specific route setting device *to set routes for each of the wavelength components for transmission on said WDM transmission network*. Instead, the '522 patent teaches a router 240 that selectively routes electronic data signals originating from the data sources to the optical transmitters. See, the '522 patent, col. 11, lines 45-47. Such a router does **not** set routes for each of the wavelength components for transmission on said WDM transmission network for at least two reasons. First, a router that selectively routes electronic data signals does **not** set routes for wavelength components. Second, because the '522 patent does not teach or suggest a WMD transmission network, the router disclosed in the '522 patent **cannot** set routes for each of the wavelength components *for transmission on said WDM transmission network*. Accordingly, claim 1 is allowable over the '522 patent for at least a third reason.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claims 2 and 4-10

The Office Action on pages 4-7 in section 5 rejects claim 2 and 4-10 under 35 U.S.C. § 103(a) as being unpatentable over the '522 patent in view of U.S. Patent No. 6,466,985 to Goyal et al. (the '985 patent). Applicants respectfully traverse this rejection.

Claim 2 and 4-10 depend directly or indirectly from claim 1, and as discussed above, the '522 patent does not teach or suggest at least three features of claim 1. The '985 patent does not cure these deficiencies. Instead, the '985 patent teaches a system for improving traffic engineering quality of service in an Internet Protocol network. Accordingly, claims 2 and 4-10 are allowable over the combination of the '522 patent and the '985 patent.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claim 3

The Office Action on pages 7-8 in section 6 rejects claim 3 under 35 U.S.C. § 103(a) as being unpatentable over the '522 patent in view of U.S. Patent No. 6,574,018 to Handelsman (the '018 patent). Applicants respectfully traverse this rejection.

Claim 3 depends from claim 1, and as discussed above, the '522 patent does not teach or suggest the features of claim 1. The '018 patent does not cure these deficiencies. Instead, the '018 patent teaches a system for avoiding temporary overflow of Internet Protocol (IP) by temporarily buffering the IP traffic so as to provide a fixed delay. Accordingly, claim 3 is allowable over the combination of the '522 patent and the '018 patent.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claims 16-20 and 24-27

The Office action on pages 8-12 in section 7 rejects claims 16-20 and 24-27 under 35 U.S.C. § 103(a) as being unpatentable over the '522 patent in view of U.S. Patent No. 5,995,256 to Fee et al. (the '256 patent). Applicants respectfully traverse this rejection.

Claim 16 recites similar features as claim 1. As discussed above, the '522 patent does not teach or suggest the features of claim 1. Claim 16 further recites a ***network management device*** which is coupled to said optical transmission device, WDM transmission network and optical receiving device, and which ***manages functions for each of these devices***. The '522 patent does **not** teach the recited network management device. Instead, the '522 patent teaches a device that modulates the signal for each wavelength multiplex transmission wavelength, and functions to receive the signal for each wavelength and provide notification of the transmission quality of each signal.

In contrast, the network management device recited in claim 16 functions to transmit transmission quality information relating to each of a plurality of wavelength routes (constituted by a transmission device, an optical transmission network, and a reception device) in a WDM transmission network. The recited network management device allocates the wavelength routes optimally. Accordingly, the '256 patent does not teach or suggest a ***network management device*** which is coupled to said optical transmission device, WDM transmission network and optical receiving device, and which ***manages functions for each of these devices***.

The '256 patent does not cure these deficiencies. Specifically, the '256 does not teach or suggest a network management device for allocating wavelength routes optimally. Accordingly, Claim 16 is allowable over the combination of the '522 patent and the '256 patent.

Claims 17-20 and 24-27 depend directly or indirectly from claim 16 and are allowable as being dependent from an allowable claim.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claim 21

The Office Action on pages 12-13 in section 8 rejects claim 21 under 35 U.S.C. § 103(a) as being unpatentable over the '522 patent in view of the '256 patent and in further view of the '985 patent. Applicants respectfully traverse this rejection.

Claim 21 depends indirectly from claim 16. As discussed above, the '522 patent does not teach or suggest the features of claim 16. Neither the '256 patent nor the '985 patent cure these deficiencies. Further, none of the cited references mention label attachment to each optical wavelength, as is recited in claim 21. Accordingly, claim 21 is allowable over the three-way combination of the '522 patent, the '256 patent, and the '985 patent.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claims 22-23.

The Office Action on pages 13-15 in section 8 rejects claims 22 and 23 as being unpatentable over the '522 patent in view of the '256 patent and in further view of the '018 patent. Applicants respectfully traverse this rejection.

Claims 22 and 23 depend indirectly from claim 16. As discussed above, the '522 patent does not teach or suggest the features of claim 16. Neither the '256 patent nor the '018 patent cure these deficiencies. Accordingly, claims 22 and 23 are allowable over the three-way combination of the '522 patent, the '256 patent, and the '018 patent.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claims 11-14

The Office Action on pages 15-17 in section 10 rejects claims 11-14 under 35 U.S.C. § 103(a) as being unpatentable over the '522 patent in view of the '985 patent and in further view of U.S. Patent No. 5,949,563 to Takada (the '563 patent). Applicants respectfully traverse this rejection.

Claims 11-14 depend indirectly from claim 1, and as discussed above, the '522 patent does not teach or suggest at least three features of claim 1. Neither the '985 patent nor the '563 patent cures these deficiencies. Accordingly, claims 11-14 are allowable over the three-way combination of the '522 patent, the '985 patent, and the '563 patent.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claim 15

The Office Action on page 17 in section 11 rejects claim 15 under 35 U.S.C. § 103(a) as being unpatentable over the '522 patent in view of the '563 patent.

Claim 15 depends from claim 1, and as discussed above, the '522 patent does not teach or suggest at least three features of claim 1. The '563 patent does not cure these deficiencies. Instead, the '563 patent teaches a method of applying an auxiliary wavelength within a single fiber. Accordingly, claim 15 is allowable over the combination of the '522 patent and the '563 patent.

In view of the above, Applicants respectfully request that this rejection be withdrawn.

Claims 28-32

The Office Action on pages 18-20 in section 12 rejects claims 28-32 under 35 U.S.C. § 103(a) as being unpatentable over the '522 patent in view of the '256 patent and in further view of the '563 patent. Applicants respectfully traverse this rejection.

Claims 28-32 depend indirectly from claim 16. As discussed above, the '522 patent does not teach or suggest the claims of claim 16. Neither the '256 patent nor the '563 patent cure these deficiencies. Accordingly, claims 28-32 are patentable over the three-way combination of the '522 patent, the '256 patent, and the '563 patent.

In view of the above, Applicants respectfully that this rejection be withdrawn.

CONCLUSION


All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

Date: _____

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